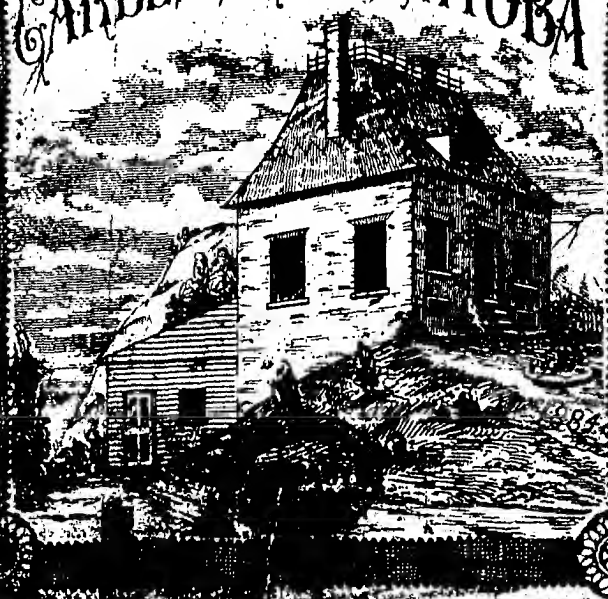


1879

PRACTICAL TESTS ON GARDENING IN MANITOBA



1884

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Deposited,

No. 2296.



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PRACTICAL TESTS ON GARDENING

—FOR—

Manitoba & North-West Territories,

—BY—

ROBERT McNEIL.

—LITTLE SASKATCHEWAN NURSERIES.—

"The cut at the top of the cover shows the Log House of pioneer settler in 1879, as it actually appeared, and the cut at the bottom of the same page, the comfortable three story Concrete House occupied by him after 5 years in the country."

*Faith in the country, with determination, will lead on to
success and competence in the Canadian Great North-West.*

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1884.



INTRODUCTION.

The first season in Manitoba, or the North-West Territories, is often a trying one to the new settler. He labors under a great disadvantage in many ways amongst which perhaps the greatest is his want of a knowledge of the climate, and the right time to sow his grain, and plant his garden, also the right things to grow. Having lived for five years in the country, and obtained from actual experience and close observation a thorough knowledge of these matters, and feeling that our experience "dearly bought" might be of benefit to others who are coming to this great country, we will try to set forth in simple terms the best method of gardening in Manitoba and the North-West Territories, the different varieties of vegetables etc. that succeed best, also some useful hints on other matters of interest to the settler.

It must not be supposed that the same style of gardening that has succeeded in the Eastern Provinces and the Old Country will do here. It is unreasonable to suppose that it would answer in this high latitude, and without the milder influence of the salt water. It might be here remarked that the instructions and suggestions in these pages have especial reference to those portions of the North-West British possessions west of Winnipeg, and north of the 49th parallel of latitude, along the track through which the Canada Pacific Railway and its Branches, as well as the Portage Westbourne and North Western Railway runs, or what is known as the "Fertile Belt."

It will be interesting to those who are not acquainted with our climate to know something of the way vegetation progresses in the spring. When the snow leaves us, which event usually takes place somewhere about the first of April, it is not necessary to wait till all the frost is out of the ground before beginning spring work, in-

deed, one would not have any garden or crop if they did. The garden as far as possible should be prepared in the fall, then as soon as there are two or three inches of frost out of the ground, the farmer may proceed to sow his grain. After the snow leaves there is seldom much, or any, rain, until about the twentieth of May, when what are called the June rains set in, and until about the fifteenth of June it is not safe to count on a fine day. During the time between the "break-up" and the setting in of the rainy season, vegetation all depends on the frost that is still in the ground, and which the sun day by day as his rays become more and more powerful, melts, and draws up in moisture to the roots of the plants. It is indeed an interesting fact that almost all the moisture at this season of the year comes from beneath; and not from above. This subterranean moisture, combined with heat from an almost vertical sun, long days and short nights, will account for the amazing rapidity with which all vegetation here reaches maturity.



PRACTICAL TESTS ON GARDENING.

VEGETABLES.

To ensure success in gardening in this climate, some kind of a hot-bed is necessary to secure early plants; although a very good garden can be had without it, yet the trouble involved in a small hot-bed is so little, that one is sure to be amply repaid by the superior variety and earliness of the supply of vegetables, so welcome on the table of all.

Some settlers, when they first locate on the prairie and think of the subject, are ready to say, "Why, we have no material with which to make a hot-bed. We are so far from all the supplies to which we were accustomed at home, that it does not seem possible to make anything that will answer for the purpose." But do not be discouraged. It is not necessary that you should have expensive frames, made by skilled

mechanics, for the growth of the finest of plants. Something like the following, adopted by us five years ago, and which answered very well, will do in case other materials are not at hand. Well, at that time glass could not be obtained—nor lumber,—so we made a cold frame, six feet by four feet, with Poplar poles, laid up similar to a log house, with stakes driven into the ground at the corners to keep it steady; this was placed against the south wall of the house, and nearly filled in with manure, and about six inches of sandy loam on the top; this was allowed to settle and get warm, after which the seeds were sown, then well watered with warm water. Instead of glass for a cover, a piece of white cotton dipped in linseed oil was made use of; this was stretched tightly over the top of the frame, fastening it securely at two corners, and tying it at the other two corners, so that the cover could be lifted for the purpose of watering with warm water.

Of course, if you are where glass and boards

can be obtained, you can easily make your own hot-bed frame with a few pieces of board, and a few slats to lay the glass on; make the edges of the glass meet, so that no frost will get in. Whatever style of hot-bed you adopt, it will be necessary to cover the whole bed every night with old horse blankets, or anything that will keep it warm, removing the covering in the morning.

About the middle of April will be the proper time for sowing such seeds in the hot-bed as require the plants to be grown there, amongst which may be mentioned as the most important—Cabbage, Cauliflower, Celery, Cucumbers, and Tomatoes.

Now for the garden itself. Select a piece of ground (sandy loam is best;) if possible, let it have a southern aspect, and be sheltered on the west and north by some one of the many groves of Poplar that dot our plains; or, if this protection cannot be got, use what protection can be obtained from your farm buildings.

And here we would advise that every settler, as soon as practicable, should plant a grove or belt of trees around his buildings and garden, to act as a shelter and wind-break. For this purpose, White Willow, Poplar, Balsam or Cotton Wood will answer well,

Do not be in too great a hurry in sowing garden seeds in the spring; the first of May is soon enough for most of the Vegetables you will need to grow.

A few of the earliest kinds, such as Onions, Peas, Turnips, Beets, Carrots and Parsnips, can be sown in the fall. This can be done before the ground freezes up, and, as there is very little rain in the fall, the seeds do not germinate, but remain in the ground uninjured all the winter, and make an earlier start in the spring than could be obtained by spring sowing.

When it is necessary to use manure for the garden, use none but that which is thoroughly decayed, for after it is mixed with the earth, there is not enough moisture to rot it, and so

does more harm than good, as it burns the fibres of the plants with which it comes in contact. For any crop that needs enriching, such as Squash, Cucumber, Celery, &c., it is much best to use liquid manure. This is easily obtained by taking a large barrel and placing it convenient to the garden; put five or six buckets of manure from the horse stable in it, and fill up with water; let it stand for a day or two, then use the liquid to water the plants desired morning or evening, the early morning being the best time.

The following will be found a correct catalogue of the Vegetables grown in this country, together with the best time for planting and method of culture:—

ASPARAGUS.

This delicious esculent is so hardy, and comes into use so early in the season, that no garden can be said to be complete without a good sized bed of it. It can either be raised from seed, or yearling plants can be obtained from the nursery-

men. If from seed, first soak for 24 hours in hot water, or many of them will not germinate; then plant the seed in drills two inches deep and one foot apart; drop the seed about three inches apart in the drills. Keep the seed bed clear of weeds by hoeing frequently, and when the plants are a year old they may be removed to permanent beds of good, rich soil; any soil that will raise forty bushels of wheat to the acre being good enough to grow good Asparagus. It is better to give the bed some protection in winter by scattering litter or long manure over it and removing in the spring. All things considered, the old-fashioned "Giant" variety is the best. Sow the first of May.

BEANS.

All the varieties of the early Bush Beans succeed well; the Early China Red Eye and the Early Six Weeks being the most certain to ripen their seed, while for table use the pods of the Wax or Button Bean are far more delicious; but although in favorable seasons we have

ripened them, they cannot be relied on so well as the first-named varieties.

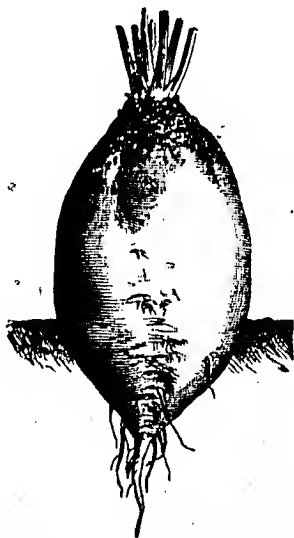
Plant for first crop, from about the 20th of May to the 1st of June, in drills thirty inches apart, dropping the Beans about three inches apart in the drills. For a succession, plant again about the 10th of June, and you will have green beans nearly all the growing season. Save enough from the earliest planting to mature for seed, being particular not to pick any green pods for the table from the rows thus reserved.

BEETS

May be sown in the autumn, or in the spring, about the 1st of May. Sow in drills thinly two inches deep and thirty inches apart; thin out the plants to six inches if too thick. This seed vegetates much more freely if soaked for twenty-four hours in warm water before planting. The varieties that succeed best are *The Early Blood Turnip* and the *Egyptian Blood Turnip*.

It will be well to note here that all roots that are short and of the Turnip style do best here,

as the ground is colder as they grow down, and if the season is cold they are liable to become woody.



MANGOLD WURZEL.

This crop is of course more adapted for field than garden culture. It does well, however, and may be treated the same as Beets, being careful, however, to give it more room to grow in.



CABBAGE

Can be grown that will rival those of any other country for size and firmness of head. The seed for this crop should be sown in the hot bed, and not transplanted until the end of May, nor later than the first of June. Have thick, stocky plants, do not force them too fast before transplanting, as they then become tender. Keep them well hoed after they are set out every few days, until they have got a good start. If they are eaten by insects dust them with ashes or lime in the morning while the dew is on. A brood of young

chickens with the old hen in a coop set in the Cabbage patch will improve matters. The *Early York*, *Fotter's Drumhead*, and the *Red Dutch* for pickling, are the best. The *Early York* can be planted very close, say 18 inches apart in the rows, and the rows about 30 inches from each other. The *Drumhead* requires more room—about 30 inches apart—and the rows three feet from each other.

CARROTS

Succeed well, and will grow without any trouble if you are careful to keep the beds well weeded until they get strong enough to take care of themselves. The seed may be sown in the fall or in the spring, about the 1st May. The drills should not be more than half an inch deep, and two feet apart. At the last weeding thin out the Carrots to about six inches apart. For the table the *Early Scarlet Horn* is the best variety; while for the purpose of feeding to horses or cattle the *White Belgian* is to be preferred on account of its greater productiveness.

CAULIFLOWER.

Treat the same as *Cabbage*, planting about the same distance apart as *Drumheads*. This favorite vegetable grows to a remarkable size in this country, the heads being very solid and firm, and not being subject to mildew as in other climates. Almost every plant will head. They require to be cut or protected in the fall, as the first hard frost otherwise would be apt to discolor them. Simply breaking the leaves over the head will usually be sufficient protection. The *Early Paris* is the best for this climate.

CELERY.

On account of the length of time required by the seed of this plant to germinate it should be sown in the hot bed early, say not later than the middle of April, and unless the spring is very backward it might be better to sow about the first of April. Set out the plants the same time as *Cabbage*, but not in trenches after the old style, but on the surface of the ground, as, the farther you get from the surface, as has been

mentioned before, the colder the ground becomes; therefore plant Celery in holes made with a dibble at the top of the ground, about six inches apart in the rows, and the rows three feet apart. As the plants grow earth up like potatoes, being careful not to get any earth in the heart of the plants. It must be understood that Celery will not stand out in the garden here all the winter, as in milder climates, but can be taken up carefully before the ground freezes and put in boxes with dry earth—sand is preferable—and placed in the cellar, where, if not too warm, it will keep good and crisp until spring. A liberal supply of liquid manure will be found to pay well for securing a fine quality of this plant. *Crawford's Half Dwarf* and *Incomparable* are the most suitable varieties.

CORN,

Although too uncertain for a field crop, can always be relied on to produce well in the garden. Plant about the 20th May, in hills three feet apart each way, dropping five kernels of Corn

in each hill, and covering an inch deep with fine rich earth. Hoe well and frequently: when about a foot high, thin out the plants to three in a hill. Should there be any unused ears when hard frost comes, cut the stalks all up and put into large stooks and tie at top securely, when you can thus lengthen the season of green Corn for a good while. Remember, that for this crop the ground cannot be too rich.

Naragansett "Improved Evergreen Broom Corn," the *Early Minnesota Sweet Corn*, is the best.

CRESS

Can be either sown in close drills or broadcast; if the ground is free from weeds the latter method will do, but if you fear trouble from weeds it will be more easily kept clean in drills, made far enough apart to use the hoe between them. Sow early.

CUCUMBER.

If very early Cucumbers are wanted, the seed should be sown early in the hot bed, and not trans-

planted until they begin to throw out their runners, or about the first week in June. Take care to protect them at night for about a week after setting out. Water them with liquid manure. To make the fruit set well pinch off the ends of the runners. Keep well hoed. Set three plants together in hills four or five feet apart. The best varieties are the *Early Russian* and the *Early Cluster*.

KALE.

Treat the same as Cabbage.

LETTUCE.

If wanted early, it is best to sow some seed in the hot bed. For this purpose the *Early Tennis Ball* is best. For the main crop sow in the garden about the middle of May, and then again in two weeks. Drills half an inch deep and twenty inches apart will answer for this crop. Your garden varieties may be *Ferry's Early Prize Head* and *Brown Curled*. It can be sown late in the fall.

MUSHROOMS

May be grown ~~in the~~ usual manner by those who will go to the trouble.

ONION

Are a success in the Northwest. Let the ground be very rich and mellow. Does well sown in the fall. When they come up keep them well hoed and thin out to four inches apart. They will grow well also from sets, and well grown Onions always command a high price in the market.

For general crop, the *Red Wethersfield* is the best. The writer saw Onions of this variety grown by the Sioux Indians on their reservation at Oak River that would have passed muster in any vegetable market in the world.

For those who prefer a very mild Onion, the *White Portugal* will give good satisfaction, although not so heavy a cropper as the former variety.

For pickling, sow the *White Silver Skin*.

PARSNIP

Does remarkably well. Sow in the fall or early in the spring, in good mellow ground half an inch deep and the drills twenty inches apart. Keep them well hoed and thinned out, and you will have a good return. This root will remain safely in the ground all the winter by giving it a slight protection.

We recommend the *Hollow Crown* as most suitable.

PARSLEY,

If sown about the tenth of May, in shallow drills eighteen inches apart, will yield well, and what crop remains at the first frost can be cut up at the ground and dried for winter use. There is no variety that can excel the *Triple Curled*.

PEAS

Do well in the garden, sown either in the fall or early in the spring, making three different sowings in the spring at intervals of ten days, to ensure green peas for the table all the season.

Sow in rich ground, in double drills six inches

apart, thus making one set of pea sticks do for two rows. When about six inches high, sharpen a quantity of poplar brush and place it firmly in the ground between the double drills. If brush cannot be got it would be better to sow the Dwarf varieties, which do not require any support.

For crop where the necessary support can be provided, the *Early Kent* and *Ferry's Early* are to be depended upon.

Dwarf variety not requiring support, *Tom Thumb*.

POTATO.

For the growing of this king of all the vegetable tribes this country is the pride of the world, for in no other country does it thrive so well as here. When planted in a mellow sandy loam the size it attains is wonderful, and with the size it loses none of the other qualities which go to make up a good Potato, that is to say, firmness and solidity to the centre, dry and mealy when cooked. For the earliest, plant the

first of May, about six inches deep, in drills thirty inches apart. For the main crop, plant



in drills four inches deep, about the fifteenth of May. Let these drills be three or four feet

apart, to give room to cultivate them by horse power, and also to earth them up with the plough. These drills are best made by your team and plough, and as you mark out and plant your drills you can come back and cover up your Potato sets with the plough, thus dispensing with a great deal of hard hand labor. For earliest crop, plant *Beauty of Hebron*; while for the main crop you can depend on either that variety or *Early Rose* and *Snow Flake*.

RADISH,

Like the Potato, does well in this country, putting to shame the famed Radishes of Petit Cote, which are the pride of the New York market. The Radish here grows to an immense size, and does not get woody. Sow in shallow drills about the middle of May. Drills fifteen or eighteen inches apart. The *Turnip* varieties are the best, although the *Long Radish* will also succeed.

RHUBARB

Can easily be raised in any quantity from the seed of good varieties. Sow early in the spring,

in shallow drills eighteen inches apart, and when the plants are a year old, select a rich piece of ground and transplant into rows three or four feet apart, the plants standing three feet apart in the rows. Give them protection in the winter by a thin coat of manure.

SQUASH.

Any of the early varieties do well. Treat the same as cucumbers, only giving them about twice as much room in the garden. They may be grown without the assistance of a hot bed by planting them in hills eight feet apart, about the fifteenth of May. Put four or five seeds in each hill, and when they commence to run thin out the plants to three in a hill, pinching off the ends of the runners as with cucumbers.

The *Early Bush Scallop* and the *Vegetable Marrow* will be found good.

TOMATO

May be raised successfully if care is taken with them. It is indispensable that the plants be raised early in a hot bed, and do not transplant

into the garden until about the sixth of June. The plants should be in flower when set out, and should be shaded from the sun for a few days, as well as protected during chilly nights. If such a situation as the south wall of a house



can be had it will be just what they want, and if planted in good mellow soil and trained to the wall of the house they will be sure to do well. If the growth of the vines appears to be

very rank, cut off the tops down to the first fruit that is set, and they will bear better.

The *Early Conqueror* is a very good variety.



TURNIP

May be sown for garden use in the fall. In the spring, sow early in mellow ground. About half an inch deep, in drills two feet apart, is about the right thing. Thin out to six inches, and keep clean from weeds. For summer use the *Nimble Dick* is the best; while for the winter supply, the *Purple Topped Ruta Baga* is not surpassed.

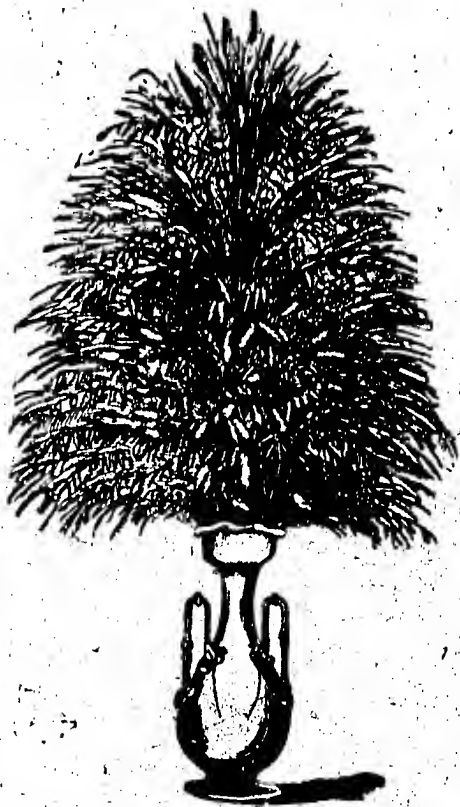
HERBS

A good many of this class of plants, which are so necessary for family purposes, can be easily grown here.

Among those which are hardy and of general use may be mentioned the following:—*Balm, Caraway, Sage, Savory, Thyme.*

The seeds of these may be sown about the tenth of May, in shallow drills fifteen inches apart, and for winter use may be cut close to the ground when in full flower, and dried in bunches. Sage, with some protection, will survive the winter.





DRIED FLOWERS.

FLOWERS.

We cannot too earnestly recommend the growing of flowers. In the push and hurry of the first years of a settler's life these ornaments of our homes are apt to be neglected ; but it will not be found wasted time to give a little attention to these old friends. Their familiar faces smiling on us from day to day will cheer us and make us more contented with the new home and life which opens before us in a new country ; while the care of them will prove a recreation after the toils of the day.

If it is desired to have a long succession of flowers from June until the frost comes, the plants of most varieties should be raised in the hot bed, and the latter part of May and beginning of June should be transplanted into the flower border at the edges of the vegetable gar-

den; or a suitable piece of ground, made very fine and mellow, may be reserved for the purpose. This may be formed into beds of a width to allow of their being weeded from the paths dividing the beds, thus doing away with the necessity of stepping on the prepared ground.

In the border before mentioned, or beds, the plants of the different varieties may be planted in small groups, due regard being had to the judicious mingling of colors and sizes.

The following will be found a list of the flowers most suitable for this climate:

ANTIRRHINUM,

or Snapdragon. Sow early in the spring either in the hot-bed or garden; transplant out eight inches to a foot apart; they have a very pretty effect when grown in clusters. Although a perennial they flower well the first year from seed, and the plants can be taken up in the fall and kept in the cellar and replanted in the garden in the spring.



ASTER.

Annuals should be sown in a hot-bed and transplanted the first week in June.

COREOPSIS.

Sow early in the garden where it is to remain and give them plenty of room, say eighteen inches apart. Annual.

CANDYTUFT.

Sow early in the garden where you desire the plants to remain. Looks very fine in masses. Annuals. Colors—white, purple, carmine; one variety is very fragrant.



BALSAM.

Annuals—very showy—require the treatment mentioned for Asters and, although somewhat tender, by giving them rich soil and a sheltered situation will give good satisfaction.

CANTERBURY BELLS.

A very handsome and stately biennial, succeeding best in a rich sandy loam. Sow early in the spring and when the plants are a good size transplant to two feet apart where you want them for the next season's flowering. Blue and white.

CHRYSANTHEMUM.

Annual.—Are quite at home in this climate and if sown early in the hot bed and then transplanted two feet apart, will give a long succession of showy flowers even after the frost has put down the rest of the vegetation in the garden. If the seed is allowed to ripen and fall to the ground and abundance of plants will be found the next spring, which, if transplanted, will flower quite early. Yellow and white.

COLUMBINE.

Hardy perennial. A general favorite.—Flowers the second year from the seed, which should be sown early and then the plants removed to their permanent place.

CONVOLVULUS.

Annual.—Very fine for rock work or hanging baskets. Sow about the 15th May in the garden.

DAISY.

All lovers of flowers will be glad to know that this little favorite will brave our northern

climate and not only so, but will thrive under it, and even, in favorable circumstances, survive our winter, although it is best to lift the plants before the ground freezes and put them in the cellar when they will come out in fine condition for flowering the next spring. If you wish early flowers sow seed in hot bed early and although a perennial, the plants will flower freely the first year.

FEVERFEW.

Perennial.—Raise the plants in hot bed—transplant the first of June—lift the plants in the fall for safe keeping in the cellar, where put them in earth for the winter.

GLADIOLUS.

Bulbs.—Must be protected carefully from frost when brought into the country. Plant early in the spring as soon as the frost will allow you, about four or five inches deep. When done flowering take up the bulbs, and when dry pack them away in a dry place where the frost will not reach them.

GLOBE AMARANTH.

Annual.—A very pretty Everlasting. Start the plants in a hot bed after soaking the seed in warm water for twelve hours. Cut the flowers when they come into bloom and hang them up in a dark place, heads down. They will make very pretty winter bouquets used with dried grass.



HOLLYHOCK.

This old-fashioned stately perennial should find a place in every garden, especially as it flourishes and attains a perfection here that is

seldom seen in any other country, and is indispensable in forming a background for smaller flowers. Sow the seeds in the garden in May or June. Take the roots up in the fall, place in a box of earth in the cellar. Plant out again in the spring four feet apart. Require rich soil.

LARKSPUR (BEE):

Perennial.—Makes a valuable addition to the flower garden. Sown in the summer will flower the following year. Protect the roots in the winter.

LOVE IN A MIST:

Annual.—Sow in the spring in the garden and thin the plants to ten inches apart.

LILY OF THE VALLEY.

Perennial.—Raised either from the seed or roots. Thrives best in a sheltered shady nook and should be protected in winter.

MARIGOLD.

Annual.—Get good seed of the dwarf varieties double. Sow in hot-bed.—transplant the first of June. As grown in this country from the

best seed they cannot be excelled, being almost equal to dahlias.

MIGNONETTE.

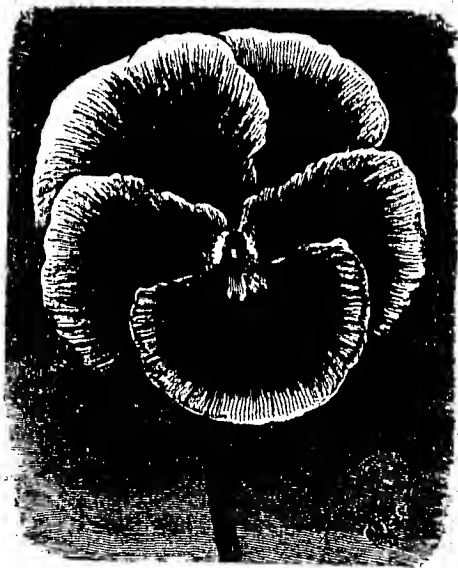
Fragrant annual.—Does remarkably well and will flower from early summer till late fall. Sow either in hot-bed or garden—thin the plants to about a foot apart and before the summer is over you will have a solid mass. Keep the flowers well cut, not allowing them to go to seed or they will cease flowering.

MORNING GLORY.

Climbing annual.—does well.—Sow early in the spring and place poles or string on which to climb.

NASTURTIUM.

A handsome showy annual well known to all. The dwarf varieties the most desirable here, where they attain great perfection, flowering more freely than in warmer climates. Sow the seed in the garden the middle of May.



PANSY.

Also flowers in perfection here and has outlived our winters without protection, but much better to place the plants in the cellar for the winter. Sow in the hot-bed early and transplant to garden in May.



PETUNIA.

Annual.—Sow in hot-bed or garden, early transplanted a foot apart they make a splendid show.

POPPY.

An old fashioned annual which takes very kindly to our northern climate and will flower the first season from seed if sown early.



PHLOX DRUMMONDI.

One of the most brilliant and desirable *of annuals.—Sow in hot-bed and transplant to the garden the end of May, six inches apart.

SWEET WILLIAM.

This old and favorite perennial is well suited to the climate, reaching its highest perfection here, and when sown early in the spring will flower the same season, which it rarely does in other countries. It is well to take up the roots in the Fall for protection in the cellar, as it flowers more freely the next season by so doing.



PINK.

China and Japan succeed well. Sow in the garden. Take up the roots in the Fall and put in the cellar. Set them out early in the spring.

PORTULACCA.

Annual.—looks beautiful if grown in masses of mixed colors. Sow in the garden in May.

SUNFLOWER.

Annual.—Sow early in spring where they are to remain, thinning them out to four or five feet apart. Makes a good background for the garden.

SWEET PEA.

A climbing annual requiring to be sown in the garden early. Give them sticks or string on which to climb. Very fragrant and makes a pretty show.

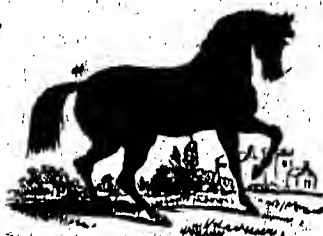
DIELYTRA SPECTABILIS.

Tuberous rooted perennial, succeeding well here, and will stand the winter. The roots can be obtained from the nurserymen.

TIGER LILY.

Plant the bulbs four to five inches deep and they will do well.





HORSES.

So much has been said about the unsuitability of the Horse for this climate, and its liability to disease and premature death, and this idea has become so widespread and is so frequently put forth by those who are ever ready to find fault with anything and everything connected with this country, that it might be well to make a few statements as to the actual facts of the case, and which may be relied and acted upon by the incoming settler, who may be somewhat in doubt as to what to believe, and what to do, in reference to bringing horses with him to this far North-West.

The idea that this country is too cold for Horses to exist is simply ridiculous. The herds of Horses that live out all the winter and remain in good condition disproves this. The horses of Montana and the ponies of the Indians never see the inside of a stable and do not know what oats are, and yet not only live but thrive and multiply. And horses that can brave the terrors of a winter on Sable Island or Cape Cod, which it is well known they do, need not fear a winter in the North-West, where by pawing the high snow, an abundance of well cured grass (not rotten as it would be in the old Provinces under similar circumstances or at that time of the year) can be obtained, which furnishes all the nutriment necessary for their support in good condition, and where an abundance of ravines and groves of trees furnish shelter during stormy weather.

But it is not with this class of horses that this chapter has to deal with, but with such as the farmer will need to use on his farm for all its

varied work, such as breaking, putting in crops, hauling grain to market, &c., and the question may be asked by the intending settler from the old Provinces—"Will it be safe for me to bring my team to the North-west, or shall I sell them and purchase oxen when I get there?"—We would say in answer to such questions, that if you have a team or teams of young horses (not under 4 years old) and can afford to give them a fair chance the first summer, and not to work them too much without feeding them *plenty* of good sound oats or barley, you may safely bring them with you, and it will give you much better satisfaction than working yourself to death while endeavoring to make the usually stubborn ox do his share of the work required in settling on a new farm.

The usual plan pursued by settlers has been to bring their horses to this country early in the spring, and to reach their future homes these teams, attached to wagons loaded with their household goods and supplies, have to haul the

loads though creek, mudhole and slough all day, and at night simply tied to a wagon on the prairie, without any shelter—the water given them to drink perhaps strongly impregnated with alkali, and owing to the scarcity or expensiveness of oats, they have only a limited supply. When reaching the homestead they have no stable, are exposed to all the violent rains of the rainy season, are tormented by mosquitos, probably set to work either breaking sod, or hauling house and stable logs—all this without suitable shelter or the accustomed supply of grain, and is it any wonder that the weak ones succumb—they would not endure such treatment in Ontario.

But we maintain and know it to be the case that if instead of this treatment, they are provided for in a reasonable manner—given grain in suitable quantities, with pure water, and for shelter have water-tight stables with dry floors, there is no more risk of their dying prematurely here than in any other country.

There is no doubt but that the horse most suitable for this country is the short legged stocky, French Canadian horse. He is less subject to disease—is kind and tractable—is thick-skinned enough to withstand the attacks of mosquitos, &c., endures the cold in the best manner—and his endurance is such, that he will do an immense amount of work without fatigue.

This kind of horse is the coming horse of the country, and to any one who is prepared to put some capital in the breeding of them, no doubt a large fortune awaits them.



GRASSES.

There are very few, if any, countries in the world that can boast of as large a variety of valuable natural grasses, as the Province of Manitoba and the North-West Territories of the Dominion of Canada. The pen and tongue of the scientist, as well as the observant traveller, have told of their luxuriance and usefulness, and those persons who were fortunate enough to see the fine show made by Manitoba, at the different exhibitions, in the Provinces of Ontario and Quebec, must have been astonished at the rich productions there shown, and especially at the size and marvellous seed producing powers of the different grasses indigenous to this great country. For those who wish to obtain full information on these points we would refer you to the Deputy Minister of Agriculture for Manitoba, Mr. Acton Burrows, who for some years

GRASSES.

has identified himself with the progress of Agriculture and its kindred pursuits in the North-West, and whose knowledge of these subjects cannot be surpassed.

The object of this chapter is to state a few facts perhaps not so generally known with reference to the cultivated grasses of the older Provinces.

WHITE CLOVER.

This fine pasture plant has, after several years' test, proved itself quite at home and perfectly hardy in the North-West, and when the time comes that fenced pastures will be the vogue, then this plant will play an important part in producing a rich close grass during the whole season. It produces seed here in abundance, and is so aggressive that if left to itself will crowd out the natural grasses and monopolize the whole ground.

It can be sown on mellow and moderately good soil as soon as the ground is thawed sufficiently in the spring, either with or without a

PRACTICAL TESTS ON GARDENING.

grain crop, at the rate of about five pounds of seed to the acre

RED CLOVER.

It is very generally supposed that Red Clover is not sufficiently hardy for this country, but this is an error, as the result of a three years' test proves, and from what is already known of its habits here we are impressed with the idea that it will prove longer lived than it does in the old Provinces, where two years seems to be the limit of its profitable existence. We look to this plant to have a glorious future in the North-West, and confidently think that it will prove as great an addition to the fertilizing plants here as it has been especially in the Province of Ontario and the State of New York, where the fertility of the best wheat lands is maintained almost exclusively by the turning under of crops of clover. We look to it to be of great benefit to our immense plains, where it is to be hoped that the farmers will grow it largely, and although, owing to the great richness of the soil,

it would be some years before those plains become exhausted, yet it would be a wise policy for the farmers to maintain their farms in fertility, and not suffer them to become like the poor and barren fields that can be found all through the State of Minnesota. Red Clover seed can be sown in the spring either on mellow soil alone or with grain as in Ontario. If the latter method be adopted, sow at the rate of 8 or 10 lbs. of seed to the acre, after the grain has been harrowed for the last time, then passing a light roller over the crop will ensure its early and even germination.

TIMOTHY.

Although not so valuable as a fertilizing plant as Red Clover, yet where one is desirous of keeping his horses in the best condition, and when the country becomes so closely settled that it will be necessary to go a long way to cut the winter supply of hay, then Timothy will be resorted to as a chief source of hay supply.

It has been grown here for some years and

has proved a great success. Some Ontario farmers located near Odanah on the Little Saskatchewan have grown it largely the past two years, and from them the information is obtained that by feeding their horses with Timothy Hay they can obtain the same results with one half the quantity of oats that were necessary when feeding prairie hay. Owing to the freedom with which the plants stool out here less seed is required to the acre than in Ontario. Eight pounds will be found sufficient, sowing in the same manner as recommended for red clover. If sown early in the spring alone on mellow soil it will reach the height of four feet the same summer, yielding a good crop of hay of two tons to the acre.





POULTRY.

No book on rural life in the North-West would be complete without an allusion at least to the keeping of poultry. And whether it is desired to keep them for pleasure or profit, no home should be without a good supply. All the various kinds of turkeys, geese, ducks and chicken, usually common on the farms of Ontario and Britain can be kept here, but we will confine ourselves to speaking more especially about the

domestic fowl, which for profit if not for pleasure is perhaps superior to other kinds of poultry for this country. As egg producers simply it is doubtful whether any of the different breeds will surpass the pure white Brahmas. The pullets commence to lay quite young, and by careful feeding and suitable buildings for them the supply of large fine flavored eggs is almost unintermitting. This breed is also very hardy, as much or more so than any other breed. The Black Spanish is a good egg producer, as is also the Plymouth Rock, but in our experience neither of these last mentioned breeds is as hardy as the White Brahma. If the object in keeping stock is the raising of chicken more than the production of eggs, then we would recommend a cross between the full Brahma and good common stock, as the full Brahma hens do not make as good mothers as when crossed with some other breeds. The chicken from this cross of Brahmas with common stock make a good hardy domestic fowl, good layers and a large table bird.

It has been the custom with many in this country to keep their poultry during the winter with their cattle and horses, but this, if possible, should be avoided, it being injurious to both. A separate building should be provided for the fowls, the main requisite of which are light and warmth for winter, and of whatever material the building may be constructed great care should be used in making it wind proof for the winter. With regard to the size—12 feet square is not too much room for 25 hens, and a house of this dimensions would require for light a window at least 3 feet by 4 feet, about 1 foot from the ground, and facing the south so that the occupants could get the full benefit of the sun. During the winter of course fowls will have to depend altogether on being fed, and it is found, that in addition to their usual feed, at least once a day a good feed of boiled grain of some kind—potatoes or other vegetables will keep them in good laying condition, provided of course, that all the other little points with which all

poultry raisers are familiar, are carefully attended to—not forgetting, of course, the supplying daily good pure water in sufficient quantities.

All broods should be hatched by the first of July, so as to give the young chicks a good chance to be well feathered and strong before the cold weather sets in, as late broods, although apparently doing well, are very apt to succumb to the cold of winter.



FINIS.

